

Amendments to the claims:

1. (Previously Amended) A composition comprising a substantially purified peptide, said AviIII peptide comprising a catalytic domain of a glycosyl hydrolase 74 (GH74_Ace) enzyme having at least 70% identity to SEQ ID NO. 3 and a hydrate binding domain (CBD) III, the catalytic domain GH74_Ace having a ce identical to SEQ ID NO 3 in each conserved position marked by an asterisk (*),
own below in comparison to *Aspergillus aculeatus* Avicelase III (AviIII_Ace):

2

PATENT
NREL 01-36

GH74_Ace GFGKSAFGSSYPVAVFVVGTVGAYRSDDCGTTWVLINDDQHGYGN-WGQAITGDHAN
 AviIII_Aac GFGKASSTGSGYVVIYGGFTIDGAAGLFLKSEDAGTNWQVISDASHGFGSGSANVVNGDLQT

GH74_Ace LRRVYIGTNGRGIVYGDIGGAPSG
 AviIII_Aac YGRVFRGHERPGLLRQSQREFAG
 ***: * : * : * : *

2. (Previously Amended) The composition of claim 1 wherein the AviIII peptide is further defined as comprising a linker and a signal sequence.
3. (Cancelled)
4. (Previously Amended) The composition of claim 1 or 2 wherein the carbohydrate binding domain (CBD) III of the AviIII peptide is further defined as comprising a length of about 80 to about 150 amino acids.
5. (Previously Amended) The composition of claim 1 or 2 wherein the carbohydrate binding domain (CBD) III of the AviIII peptide is further defined as comprising a length of about 90 amino acids.
6. (Previously Amended) The composition of claim 1 wherein the glycosyl hydrolase family 74 enzyme catalytic domain is further defined as including a polypeptide sequence of identical to SEQ ID NO: 3.
7. (Previously Amended) The composition of claim 3 1 wherein the carbohydrate binding domain (CBD) III is further defined as a polypeptide sequence of SEQ ID NO: 4.
8. (Previously Amended) The composition of claim 3 1 wherein the carbohydrate-binding domain (CBD) III is further defined as comprising the polypeptide sequence of SEQ ID NO: 5.
9. (Previously Amended) The composition of claim 1 wherein said AviIII protein comprises sequences identical to the polypeptides of-SEQ ID NO: 3 and SEQ ID NO: 4.

Application Serial No. 09/917,376

PATENT
NREL 01-36

10. (Previously Amended) The composition of claim 1, the catalytic domain GH74_Ace including at least ~~about 80~~90% sequence identity SEQ ID NO: 3..
11. (Previously Amended) The composition of claim 1 the catalytic domain GH74 including at least 80% sequence identity to SEQ ID NO: 3.
12. (Previously Amended) An isolated AviIII peptide having a polypeptide sequence of SEQ ID NO: 1.
13. (Cancelled)
14. (Previously Amended) An industrial mixture suitable for degrading cellulose, such mixture comprising the AviIII polypeptide of claim 1.
15. (Original) The industrial mixture of claim 14 further defined as comprising a detergent.
- 16-27 (Cancelled)
28. (Currently Amended) An isolated polypeptide molecule comprising at least one polypeptide sequence selected ~~for~~ from the group consisting of:
- a) a polypeptide sequence of SEQ ID NO: 3;
 - b) a polypeptide sequence of SEQ ID NO: 4;
 - c) a polypeptide sequence of SEQ ID NO: 5;
 - d) a polypeptide sequence of SEQ ID NO: 1; and
 - e) combinations thereof.
29. (Cancelled)
30. (Original) A fusion protein comprising the polypeptide of claim 28 and a heterologous peptide.
31. (Original) The fusion protein of claim 30, wherein the heterologous peptide is a substrate targeting moiety.

PATENT
NREL 01-36

32. (Original) The fusion protein of claim 30, wherein the heterologous peptide is a peptide tag.
33. (Previously Amended) The fusion protein of claim 32, wherein the peptide tag is 6-His, thioredoxin, hemagglutinin, glutathione S-transferase, or OmpA signal sequence tag.
34. (Original) The fusion protein of claim 30, wherein the heterologous peptide is an agent that promotes polypeptide oligomerization.
35. (Original) The fusion protein of claim 34, wherein the agent is a leucine zipper.
36. (Original) A cellulase-substrate complex comprising the isolated polypeptide molecule of claim 28 bound to cellulose.
43. (Original) A composition comprising the polypeptide molecule of claim 28 and a carrier.
44. (Cancelled)
45. (Cancelled)
46. (Cancelled)
- claim 37-42 (cancelled)*